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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,589	07/29/2002	Jinhua Huang	124615	5120

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EXAMINER

VARGAS, DIXOMARA

ART UNIT	PAPER NUMBER
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2859

DATE MAILED: 10/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/064,589

Applicant(s)

HUANG ET AL.

Examiner

Dixomara Vargas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (US 6,275,128 B1) further in view of Rapoport (US 2002/0097122 A1).

With respect to claims 1, 6, 11 and 16, Aoki discloses a magnetic field shimming system for an MRI magnetic field generating assembly, the magnetic field shimming system comprising

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(Figure 2, #10): a plurality of shims secured relative to a surface of the magnetic field generating assembly (Figures 1 and 2; #15) to at least partially correct inhomogeneities in a magnetic field generated by the magnetic field generating assembly (Abstract), said plurality of shims being arranged along a plurality of concentric geometric shapes (Columns 3-4, lines 65-67 and 1-7 respectively)

Aoki discloses the claimed invention as stated above except for the concentric geometric shapes each having at least five sides. However, Rapoport discloses said shapes being pentagon, hexagon, heptagon or octagon (Paragraph 0061; Figures 9 and 10). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Rapoport's teachings about the shimming means geometries with Aoki's magnetic field shimming system for an MRI magnetic field generating assembly for the purpose of allowing a maximum opportunity and variation for adjusting the strength and uniformity of the magnetic field as shown by Rapoport (Paragraph 0064).

5. With respect to claims 2 and 7, Aoki discloses at least one shim in said plurality of shims is directly coupled to said surface (Figures 1-2).
6. With respect to claims 3 and 8, Aoki discloses said plurality of shims are secured relative to said surface by a shim holder (Figure 2, #13).
7. With respect to claims 4, 5, 9, 10, 12, 15, 17 and 20, Aoki discloses at least one shim in said plurality of shims is a flat plate of magnetic material, said flat plate including a top edge, a bottom edge, side edges (Figure 2, #14 and #11), and face surfaces (Figure 2, #13), and wherein said at least one shim (Figure 2, #12) is arranged such that said bottom edge is a proximal portion of said flat plate relative to said surface (Figure 2), said top edge is a distal portion of

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said flat plate relative to said surface, and said face surfaces are aligned with a direction of the magnetic field generated by the magnetic field generating assembly (Figures 1-2).

8. With respect to claims 13 and 18, Aoki discloses selecting a height of said at least one shim to at least partially correct inhomogeneities in the magnetic field generated by said magnetic field generating assembly, said height being a distance between said top edge and said bottom edge (Columns 3-4, lines 49-67 and 1-7 respectively).

9. With respect to claims 14 and 19, Aoki discloses selecting a width of said at least one shim to at least partially correct inhomogeneities in the magnetic field generated by said magnetic field generating assembly, said width being a distance between said side edges (Columns 3-4, lines 49-67 and 1-7 respectively).

10. With respect to claims 21-23, see rejection of claims 1 and 4 above.

11. With respect to claim 24, Aoki discloses said at least one shim (Figure 2, #12) is secured relative to said surface by a shim holder (Figure 2, #13), said shim holder including a holder disk having a slot disposed therein, said slot receiving said at least one shim (Figure 2).

12. With respect to claim 25, Aoki discloses said shim holder further includes a cover disk to secure said shim within said slot of said holder disk (Figure 2, #14).

13. With respect to claim 26, Aoki discloses said at least one shim is secured directly to said surface (Figure 2).

### ***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional prior art cited in the PTO 892 discloses MRI systems consisting of

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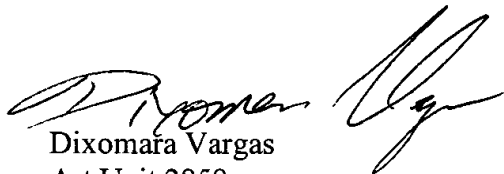
magnets with shimming tray plates for adding shimming pieces to homogenize the polarizing field.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dixomara Vargas whose telephone number is (703) 305-5705.

The examiner can normally be reached on 8:00 am. to 4:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (703) 308-3875. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0956.



Dixomara Vargas  
Art Unit 2859  
October 17, 2003



Diego Gutierrez  
Supervisory Patent Examiner  
Technology Center 2800